

Serial No. 10/747,838

133456-1

Listing of the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the Application:

Claim 1. (Currently amended) A hydrogen storage composition comprising:

a catalyst composition disposed upon a storage composition; wherein the catalyst composition consists essentially of calcium, barium, titanium, chromium, manganese, ~~iron~~, cobalt, copper, silicon, germanium, rhodium, ~~rhodium~~, ruthenium, molybdenum, niobium, zirconium, yttrium, ~~barium~~, lanthanum, hafnium, tungsten, rhenium, osmium, or iridium.

Claim 2. (Currently amended) The composition of Claim 1, wherein the storage ~~composition comprises~~ composition comprises carbon, oxides, aluminides, carbides, silicides, sulfides, nitrides, borides, oxides, oxynitrides, hydroxides, silicates, alauates, aluminosilicates, or a combination comprising at least ~~one~~ two of the foregoing.

Claim 3. (Currently amended) The composition of Claim 2, wherein the carbon comprises carbon black or and/or carbon nanotubes, or both carbon black and carbon nanotubes.

Claim 4. (Original) The composition of Claim 2, wherein the oxides are metal oxides.

Claim 5. (Currently amended) The composition of Claim 4, wherein the metal oxides are alumina, ceria, titanium dioxide, zirconium oxide, tungsten oxide (WO_3), nickel oxide (NiO_2), cobalt oxide (CoO_2), manganese oxides (Mn_2O_4 and MnO_2), vanadium oxides (VO_2 and V_2O_5), molybdenum oxide (MoO_2), or a combination comprising at least ~~one~~ two of the foregoing oxides.

Serial No. 10/747,838

133456-1

Claim 6. (Currently amended) A hydrogen storage composition comprising:

a catalyst composition disposed upon a storage composition; wherein the catalyst composition comprises an alloy of ~~calcium~~, barium, platinum, ~~palladium~~, nickel, titanium, chromium, manganese, ~~iron~~, cobalt, copper, silicon, germanium, rhodium, ~~rhodium~~, ruthenium, molybdenum, niobium, ~~zirconium~~, yttrium, ~~barium~~, ~~lanthanum~~, ~~hafnium~~, tungsten, rhenium, osmium, iridium, or a combination comprising at least two ~~one~~ of the foregoing metals.

Claim 7. (Currently amended) The composition of Claim 6, wherein the alloy comprises at least one of platinum, palladium, or ~~and/or~~ nickel.

Claim 8. (Currently amended) The composition of Claim 6, wherein the storage composition comprises carbon, oxides, aluminides, carbides, silicides, sulfides, nitrides, borides, oxides, oxynitrides, hydroxides, silicates, alanates, aluminosilicates, or a combination comprising at least ~~one~~ two of the foregoing.

Claim 9. (Currently amended) The composition of Claim 8, wherein the carbon comprises carbon black or ~~and/or~~ carbon nanotubes, or both carbon black and carbon nanotubes.

Claim 10. (Original) The composition of Claim 8, wherein the oxides are metal oxides.

Claim 11. (Currently amended) The composition of Claim 10, wherein the metal oxides are alumina, ceria, titanium dioxide, zirconium oxide, tungsten oxide (WO_3), nickel oxide (NiO_2), cobalt oxide (CoO_2), manganese oxides (Mn_2O_4 and MnO_2), vanadium oxides (VO_2 and V_2O_5), molybdenum oxide (MoO_2), or a combination comprising at least ~~one~~ two of the foregoing oxides.

Serial No. 10/747,838

133456-1

Claim 12. (Currently amended) The composition of Claim 6, wherein the catalyst composition covers a surface area in a range of from about 1 percent to about ~~100%~~ 100 percent of the total surface area of the storage composition.

Claim 13. (Original) The composition of Claim 6, wherein the catalyst composition is disposed onto the surface of the storage composition as isolated particulates.

Claim 14. (Currently amended) The composition of Claim 13, wherein the isolated particulates have a radius of gyration in a range of from about 1 nanometer to about 200 nanometers.

Claims 15-26 (Cancelled)